Psychology 110B - Midterm
Professor Paul Bloom
February 21, 2006

INSTRUCTIONS

1. Please clearly **PRINT** your name on top of EVERY PAGE. **Do this first.**

2. There are a total of 17 pages, including this one. The questions add up to a total of 105 points, broken down as follows:

BRAIN: 10
PERCEPTION: 11
SKINNER: 11
RATIONALITY: 5
EMOTION: 15
LANGUAGE: 11
EVOLUTION: 8
FREUD: 10
LOVE: 4
DEVELOPMENT: 11
MEMORY: 9

(The exam counts for 25% of your final grade – to get your score out of 25, we will divide by 4.2)

3. Do not spend too much time on any one question or you will have difficulty finishing in time. And don't try to "pad" or add irrelevant information – this can end up hurting you if you make a mistake.

4. If you need more space, you can write on the back of the page – but clearly mark which question you are answering**.**

5. **Please print your name on top of every page**. I know I said this before, but sometimes people really do forget.

6. Don't panic! Some of these questions are harder than others, and some are very hard indeed. **We do not expect ANYONE to get everything right.** Smile. Take a deep breath. Be one with the exam.

7. Good luck!

YOUR NAME _____

BRAIN (Soojin Park)

B1: The philosopher Rene Descartes was a strong defender of dualism. What is dualism? (2 points)

B2: The primary sensory and motor areas of the cortex are organized according to "the principle of topographic organization". What does this mean? (2 points)

B3: True or false. Neurotransmitters communicate to each other over synapses by means of electrical pulses. (1 point) _____

B4: You show a split-brain patient a picture of an apple to her left, and a picture of an orange to her right. Suppose you ask the patient, "What do you see?". She will say (circle the correct answer) (1 point)

AN ORANGE AN APPLE A PEAR

B5: Two neuroimaging techniques used to observe how the brain works are PET and fMRI. Choose **one of them** and briefly explain how it works. (2 points)

YOUR NAME _____

B6: Broca's aphasia and Wernicke's aphasia are both language disorders. How are they different from one another? (2 points)

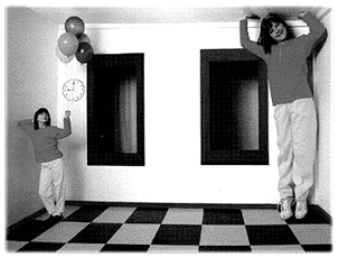
PERCEPTION (Soojin Park)

P1: In his lecture, Dr. Scholl repeatedly claimed that vision is "impossible" due to the inverse problem. Explain what this means (2 points)

P2: The psychologist Irving Biederman has developed a theory that involves three dimensional objects called **geons**. According to Biederman, what do geons do? (2 points)

YOUR NAME _____

P3: This is a picture of the Ames room. Actually, both children are the same size, but the one on the left looks smaller than the one on the right. Why does this illusion occur? (2 points)



P4: What's the big difference between Helmholtz's unconscious-inference theory and Gibson's Direct-perception theory? (2 points)

P5: In his chapter on "Visual Intelligence", Donald Hoffman gives several examples of how vision "fabricates", "lies", and "commits perjury". Give one of Hoffman's examples, and explain why it supports his point (2 points)

P6: Give an example of a Gestalt principle of grouping. (You can get full marks by just correctly naming a principle—a drawing isn't needed.) (1 point)

YOUR NAME _____

SKINNER (Louisa Egan)

S1: In Pavlov's famous experiments with dogs, what is

the unconditioned stimulus? _____

the unconditioned response? _____

the conditioned stimulus? _____

the conditioned response? _____

(4 points)

S2: True or false. The best way to make a behavior resistant to extinction is to reinforce it every time. (1 point)

_____

S3: What is habituation, and why is it adaptive? (2 points)

S4: Describe the Garcia effect – which has to do with food-aversion – and explain why it poses a problem for behaviorism. (2 points)

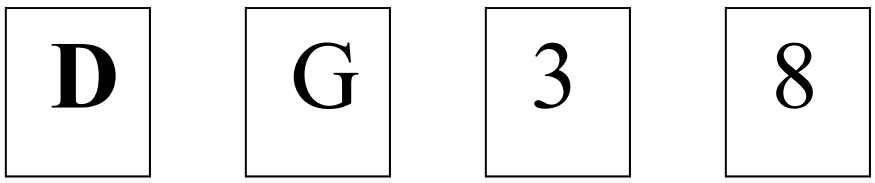
YOUR NAME _____

S5: Briefly summarize one of Noam Chomsky's criticisms of Skinner's theory of verbal behavior (2 points)

RATIONALITY (Louisa Egan)

R1: Why is it that we overestimate the number of deaths due to homicide compared with the number of deaths due to diabetes? (2 points)

R2: When people are faced with the display below and asked to evaluate the rule, "If D, then 3.", they often turn over the cards "D" and "3". Describe the cognitive bias that causes this error. (2 points)



R3: True or false, there is a lot of evidence that non-human animals are capable of correctly adding large numbers (1 point)

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YOUR NAME _____

EMOTION (Jane Erickson)

E1: In Paul Ekman's chapter, he describes some of his research showing that emotions are universal. Describe one of his studies. (2 points)

E2: You are in a Prisoner's Dilemma competition and you have decided to follow the Tit-for-Tat (TFT) strategy. You are playing against someone who has an even simpler strategy—she always cooperates, no matter what. After the end of 100 rounds .(tick off the right answer) (1 point)

-- You will have a slight advantage
-- Your opponent will have a slight advantage
-- There will be a perfect tie.

E3: True or False: When playing only one trial of the Prisoner's Dilemma, you will always do better if you cooperate. (1 point) _____

E4: According to the logic of kin selection, it would only be acceptable to sacrifice your own life for: (tick off the right answer) (1 point)

-- The life of your child
-- The life of your mother
-- The lives of your five nephews
-- According to kin selection, it is never adaptive to sacrifice your own life.

E5: This question is about two women. (HINT: The fact that they are women might be relevant.) Mary is from a "culture of honor". Susan is not. According to the Nisbett and Cohen's experiment, discussed in the lecture, they should differ, on average, in which of the following ways. (tick off the right answer) (1 point)

-- Mary should overall be more aggressive than Susan
-- Mary should not be more aggressive than Susan, but should be more concerned with her reputation
-- Neither of the above

YOUR NAME _____

E6: The part of the brain most involved in fear responses is the _____.
(1 point)

E7: Describe William James' "peripheral feedback" theory of emotion. (2 points)

E8: Describe the two surrogate mothers in Harlow's study of monkey attachment. What were the results from this study? What do these results tell us about the nature of attachment (4 points)

E9: Describe one study demonstrating that smiling is a social signal. (2 points)

YOUR NAME _____

LANGUAGE (Webb Phillips)

L1: In his chapter, Steven Pinker tells the story of Simon, a deaf child born to hearing parents. What does the case of Simon—and other such children—tell us about the nature of language development? (2 points)

L2: How many possible grammatical sentences are there in English (1 pt)?

_____

L3: Here are some examples of humorous newspaper headlines:

Kids Make Nutritious Snacks
Hospitals are Sued by 7 Foot Doctors
Local High School Dropouts Cut in Half

What do such ambiguous sentences tell us about the nature of syntax? (2 points)

L4: Describe an experiment that demonstrates that toddlers know to add –s to make a word plural even if they've never heard that word before. (2 points)

YOUR NAME _____

L5: What linguistic ability have children *lost* by about the age of 12 months? (2 points)

L6: Based on Mark Baker's chapter, describe any specific linguistic feature that Navajo and English have in common (general answers like, "they both have syntax," are not acceptable). (2 points)

EVOLUTION (Webb Phillips)

E1: Joe likes to eat candy. What is a likely ultimate cause for this liking? What is a likely proximate cause? (2 points)

YOUR NAME _____

E2: “An animal who has had frightening experiences with snakes will become afraid of snakes. This learned fear will be passed on through the genes, so that the animal’s offspring are more likely to fear snakes. This is how fear of snakes has evolved.”

What’s wrong with this argument? (2 points)

E3: Step parents are more likely than blood-related parents to kill their children. Give a “selfish-gene” evolutionary explanation for this (2 points)

E4: Alcohol is extremely dangerous to the developing fetus. Why haven’t women evolved an aversion to drinking alcohol when pregnant? (2 points)

YOUR NAME _____

FREUD (Sabina Sarin)

F1: Freud suggested that the human psyche was comprised of three components or "homunculi" that were in constant conflict with each other. Name and describe the function of each of these components. (3 points)

F2: Freud claimed that the single driving or motivating force behind human behavior was the libidinal or sexual drive. True or False?

_____ (1 point)

F3: What is the central idea behind object relations theory? (2 points)

F4: Sarah had always been very critical of the people she dated. She demanded a great deal of them, and very rarely did they live up to her expectations. One afternoon, Sarah's boyfriend, having grown tired of listening to her pick at him, got angry with her and told her he'd had enough. Sarah burst into tears and exclaimed, "I feel like nothing I do is ever good enough for you. It's like you expect me to be perfect, and I can't be." According to Freud, Sarah's accusation exemplifies her use of which defense mechanism? (1 point)

_____

F5. Pick a psychosexual stage of development and briefly describe the characteristics of an individual fixated (or stuck) at that stage (1 point)

YOUR NAME _____

F6: In his book chapter, *The Unconscious* (in the Norton reader), Freud argues that his assumption that there exists an "unconscious mind" is both necessary and legitimate. Briefly discuss why Freud believes it is necessary to assume there is an unconscious, and how he feels his claim is legitimate. (2 points)

LOVE (Sabina Sarin)

L1: One difference between happily married couples and unhappily married couples is that (tick off one) (1 point)

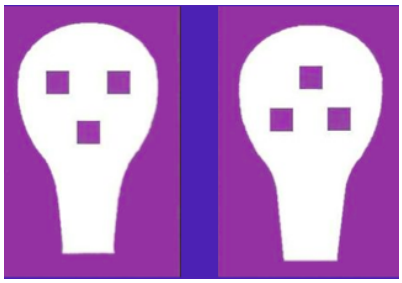
a) Unhappy couples argue more
b) Happy couples argue more
c) There is no big difference in how often they argue

L2: Based on Dr. Salovey's lecture, describe **three** principles of attraction (i.e., principles that account for who we are attracted to and why). (3 points)

YOUR NAME _____

DEVELOPMENT (Derek Lyons)

D1: In a classic experiment, newborns less than one hour old were shown the two images below and their looking preferences were assessed.

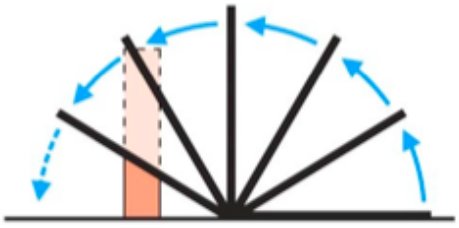


Which image did newborns prefer to look at? (circle the right answer) (1 point)

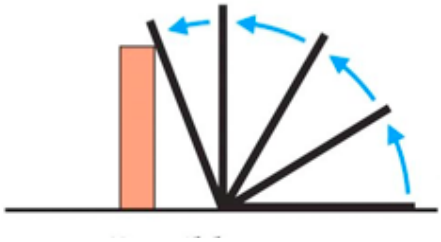
LEFT RIGHT NO PREFERENCE

D2. In an experiment by Baillargeon, very young infants (less than 3 months) watched a block be placed behind a rotating screen. Infants watched the screen rotate backwards and saw one of two outcomes: in **outcome A** (top) the screen rotated backwards all the way to the ground, and in **outcome B** (bottom) the screen stopped rotating when it contacted the object.

Outcome A



Outcome B



Which outcome did infants look longer at (circle the right answer) (1 point)

Outcome A Outcome B Both the same

YOUR NAME _____

D3: True or false, the results from the Baillargeon experiment described above are consistent with Piaget's theory of the emergence of object knowledge (1 point)

_____

D4: True or false, According to Piaget, a child in the preoperational stage will usually fail tasks that involve an understanding of conservation (1 point)

_____

D5: A 2-year-old child watches Dave put a cookie in a box. Dave leaves the room, and while he is gone the child watches Susan take the cookie out of the box and move it to the cupboard. If you ask the child where Dave will look for the cookie when he returns, the child is likely to say …. (circle one) (1 point)

THE BOX THE CUPBOARD NO PREFERENCE

D5. Autistic individuals have profound social impairments, but are often quite high-functioning with respect to other kinds of skills (mathematics, art, etc.). Does this support or refute a modular conception of development? Briefly explain your answer (2 points)

D6: For Piaget, what is the difference between assimilation and accommodation? (2 pts)

YOUR NAME _____

D7: According to the Gopnik et al. chapter, what happens when you stick your tongue out at a baby? (2 points)

Memory (Derek Lyons)

M1. Master chess players can see the configuration of pieces on a chessboard for a matter of seconds, and later recall the position of every piece with great precision. Non-chess players are hopelessly bad at this task.
How does this finding relate to the idea of 'chunking'? (2 points)

M2. Imagine an experiment in which an amnesic patient is asked to trace a figure with his hand hidden from view, such that he can only see what he is doing by looking in a mirror. Across several daily sessions he exhibits steady improvement – tracing more quickly and making fewer mistakes – though at the start of each session he insists that he has never tried the task before.

As a researcher, would you believe the patient's claim that he has no conscious memory of having done the task before? If so, what could account for his steady improvement? (3 points)

YOUR NAME _____

M3: Give one possible explanation for why childhood amnesia might occur. (2 points)

M4: True or false, Ceci's studies of implanting false memories in children find that it is easier to implant false memories in the minds of younger children than older children. (1 point)

_____

M5: What is the most important factor in getting information from sensory memory into working memory? (circle one) (1 point).

Inhibition Attention intelligence Aphasia